

FAIRCHILD

A Schlumberger Company

FDH600/FDLL600
FDH666/FDLL666

Ultra Fast Diodes

T-03-09

- C...2.5 pF (MAX) FDH600, 3.5 pF (MAX) FDH666
- V_F ...1.0 V (MAX) @ 100 mA (FDH666)
...1.0 V (MAX) @ 200 mA (FDH600)
- t_{rr} ...4.0 ns (MAX) @ $I_F = I_R = 10$ mA

PACKAGES

FDH600	DO-35
FDH666	DO-35
FDLL600	LL-34
FDLL666	LL-34

ABSOLUTE MAXIMUM RATINGS (Note 1)**Temperatures**

Storage Temperature Range

-65°C to +200°C

Maximum Junction Operating Temperature

+175°C

Lead Temperature

+260°C

If you need this device in the SOT package, an electrical equivalent is available. See FDSO1200 family.

Power Dissipation (Note 2)

Maximum Total Dissipation at 25°C Ambient

500 mW

Linear Derating Factor (from 25°C)

3.33 mW/°C

Maximum Voltage and Currents

WIV

Working Inverse Voltage

FDH 600

50 V

FDH 666

25 V

 I_O

Average Rectified Current

200 mA

200 mA

 I_F

Continuous Forward Current

500 mA

500 mA

 I_R

Recurrent Peak Forward Current

600 mA

600 mA

 I_F (surge)

Peak Forward Surge Current

Pulse Width = 1.0 s

1.0 A

1.0 A

Pulse Width = 1.0 μ s

4.0 A

4.0 A

ELECTRICAL CHARACTERISTICS (25°C Ambient Temperature unless otherwise noted)

SYMBOL	CHARACTERISTIC	FDH600		FDH666		UNITS	TEST CONDITIONS
		MIN	MAX	MIN	MAX		
V_F	Forward Voltage		1.0			V	$I_F = 200$ mA
			0.92		1.0	V	$I_F = 100$ mA
			0.86		0.86	V	$I_F = 50$ mA
			0.79		0.79	V	$I_F = 10$ mA
			0.65		0.65	V	$I_F = 1.0$ mA
I_R	Reverse Current		0.1			μ A	$V_R = 50$ V
			100		0.1	μ A	$V_R = 25$ V
					100	μ A	$V_R = 50$ V, $T_A = 150^\circ$ C $V_R = 25$ V, $T_A = 150^\circ$ C
BV	Breakdown Voltage	75		40		V	$I_R = 5.0$ μ A
t_{rr}	Reverse Recovery Time (Note 3)		4.0		4.0	ns	$I_F = I_R = 10$ mA, $R_L = 100$ Ω
			6.0		6.0	ns	$I_F = I_R = 200$ mA, $R_L = 100$ Ω
C	Capacitance		2.5		3.5	pF	$V_R = 0$, $f = 1.0$ MHz

NOTES:

1. The maximum ratings are limiting values above which life or satisfactory performance may be impaired.
2. These are steady state limits. The factory should be consulted on applications involving pulsed or low duty-cycle operation.
3. Recovery to 0.1 I_R .
4. For product family characteristic curves, refer to Chapter 4, D4.